

Attorney Docket No. **IMMR-023/03US**

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

are application David ALEXANDER et al.

Serial No.: 10/657,079

Examiner: Unassigned

Filed: September 9, 2003

Art Unit: 3739

Confirmation No.: 9176

For: **INTERFACE DEVICE AND METHOD FOR INTERFACING INSTRUMENTS
TO MEDICAL PROCEDURE SIMULATION SYSTEMS**

U.S. Patent and Trademark Office
220 20th Street S.
Customer Window
Crystal Plaza Two, Lobby, Room 1B03
Arlington, VA 22202

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Enclosed is an Information Disclosure Statement and accompanying Form PTO/SB/08A for the above-identified patent application.

- ☒ In accordance with 37 C.F.R. §1.97(b), no additional fee for submission of the IDS is required.
- ☐ In accordance with 37 C.F.R. §1.97(c), also enclosed is:
 - ☐ the fee of \$180.00 as set forth in 37 C.F.R. §1.17(p); or
 - ☐ a statement as specified in 37 C.F.R. §1.97(e).
- ☐ In accordance with 37 C.F.R. §1.97(d), a statement as specified in 37 C.F.R. §1.97(e) and the fee of \$180.00 as set forth in 37 C.F.R. §1.17(p) are also enclosed.
- ☐ Check No. ___ in the amount of \$___ for the total fee is attached.
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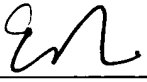
The Commissioner is hereby authorized to charge any appropriate fees under 37 C.F.R. §§1.16, 1.17, and 1.21 that may be required by this paper, and to credit any overpayment, to Deposit Account No. 50-1283.

Dated: July 13, 2004

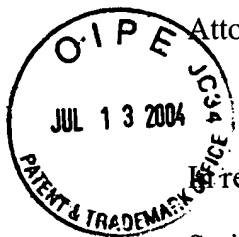
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COOLEY GODWARD LLP

By:



Erik B. Milch
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Attorney Docket No. **IMMR-023/03US**

PATENT

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Re application of David ALEXANDER et al.

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**INFORMATION DISCLOSURE STATEMENT
UNDER 37 C.F.R. §1.97(b)**

In accordance with the duty of disclosure set forth in 37 C.F.R. §1.56, Applicant(s) hereby submits the following information in conformance with 37 C.F.R. §§1.97 and 1.98.

- ☒ Pursuant to 37 C.F.R. §1.98, a copy of each document cited in the attached Form PTO/SB/08 (1 of 2) is provided on the enclosed CD.
- ☒ No copies of the publications listed on the attached Form PTO/SB/08A (2 of 2) are being provided pursuant to 37 C.F.R. §1.98(d) because the publications were previously cited by or submitted to the Office in prior Application Serial No. 09/237,969, filed January 27, 1999, to which the above-identified application claims priority under 35 U.S.C. §120.
- ☐ No copies of any U.S. patents or U.S. patent application publications listed on the attached Form PTO/SB/08A are being provided pursuant to 37 C.F.R. §1.98 because this application was filed after June 30, 2003.
- ☐ Publication(s) ___ listed on the attached Form PTO/SB/08A were cited in a foreign search or examination report corresponding to ___ application serial no. and mailed on ___.
- ☐ Enclosed is a copy of a non-English publication(s) ___. Pursuant to §609 of the M.P.E.P., Applicant submits the attached foreign search or examination report, which cites such non-English language publication(s).

- ☐ Enclosed is a copy of a non-English publication(s) ___. English language publication ___ (copy enclosed) claims priority from this non-English publication.
- ☐ Enclosed is an explanation of non-English publication(s) ___ for which an English translation is not available.
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- ☐ Enclosed is a copy of pending U.S. Patent Application Serial No. _____

This Information Disclosure Statement is filed within any one of the following time periods:

- ☐ within three months from the filing date of this national application other than a CPA under 37 C.F.R. § 1.53(d);
- ☐ within three months from the date of entry of the national stage as set forth in 37 C.F.R. §1.491 in this international application;
- ☒ before the mailing date of a first office action on the merits; or
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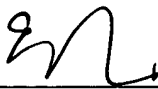
It is respectfully requested that the Examiner consider the above-noted information and return an initialed copy of the attached Form PTO/SB/08A to the undersigned.

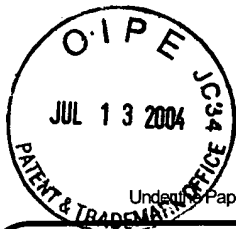
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(1 of 2)

PTO/SB/08A (10-01)
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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

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Sheet 1 of 3

Complete if Known

Application Number	10/657,079
Filing Date	September 9, 2003
First Named Inventor	David Alexander
Art Unit	3739
Examiner Name	Unassigned
Attorney Docket Number	IMMR023/03US

U.S. PATENT DOCUMENTS					
		Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
Examiner	Cite No. ¹	Number Kind Code ² (if known)			
		6,422,941	7/23/2002	Thorner et al.	
		6,160,489	12/12/2000	Perry et al.	
		6,111,577	8/29/2000	Zilles et al.	
		6,086,528	07/11/2000	Adair	
		5,817,107	10/6/1998	Schaller	
		5,690,582	11/25/1997	Ulrich et al.	
		5,575,761	11/19/1996	Hajianpour	
		5,437,607	8/1/1995	Taylor	
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		5,186,695	2/16/1993	Mangseth et al.	
		5,175,459	12/29/1992	Danial et al.	
		5,165,897	11/24/1992	Johnson	
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		4,464,117	8/7/1984	Foerst	
		4,439,162	03/27/1984	Blaine	
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		4,262,549	4/21/1981	Schwellenbach	
		4,127,752	11/28/1978	Lowthorp	
		2,972,140	2/14/1961	Hirsch	

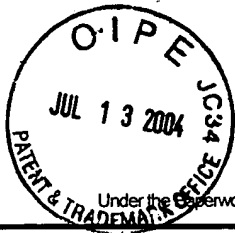
Examiner Initials*	Cite No. ¹	Foreign Patent Document			Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Country Code ³	Number ⁴	Kind Code ⁵ (if known)			
		JP	H2-185278		7/19/1990	Taito Corporation	
		JP	H4-8381		1/13/1992	Epoch Co. and Key- Planning Co.	
		JP	H7-24147		1/27/1995	Sega Corporation	
		JP	H5-192449		8/3/1993	Taito Corporation	

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¹ Applicant's unique citation designation number (optional). ² Kind Codes of U.S. Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet **2** of **3**

Complete if Known

Application Number	10/657,079
Filing Date	September 9, 2003
First Named Inventor	David Alexander
Art Unit	3739
Examiner Name	Unassigned
Attorney Docket Number	IMMR023/03US

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
		PATRICK, "Design, Construction, and Testing of a Fingertip Tactile Display for Interaction with Virtual and Remote Environments," <i>Master of Science Thesis</i> , MIT, Aug. 1990, archived Nov. 8, 1990.
		CALDER, "Design of A Force-Feedback Touch-Introducing Actuator For Teleoperator Robot Control," <i>Bachelor of Science Thesis</i> , MIT, May 1983, archived June 23, 1983.
		WIKER, "Teletouch Display Development: Phase 1 Report," <i>Technical Report 1230</i> , Naval Ocean Systems Center, San Diego, July 1988.
		BLISS, "Optical-to-Tactile Image Conversion for the Blind," <i>IEEE Transactions on Man-Machine Systems</i> , Vol. MMS-11, No. 1, March 1970.
		JOHNSON, "Shape-Memory Alloy Tactile Feedback Actuator," <i>Armstrong Aerospace Medical Research Laboratory</i> , AAMRL-TR-90-039, August, 1990.
		KONTARINIS et al., "Tactile Display of Vibratory Information in Teleoperation and Virtual Environments," <i>PRESENCE</i> , 4(4):387-402, Harvard Univ., 1995.
		AUKSTAKALNIS et al., "Silicon Mirage: The Art and Science of Virtual Reality," ISBN 0-938151-82-7, pp. 129-180, 1992.
		EBERHARDT et al., "Inducing Dynamic Haptic Perception by The Hand: System Description and Some Results," <i>DSC-Vol. 55-1, Dynamic Systems and Control: Volume 1</i> , ASME 1994.
		GOBEL et al., "Tactile Feedback Applied to Computer Mice," <i>International Journal of Human-Computer Interaction</i> , Vol. 7, No. 1, pp. 1-24, 1995.
		PIMENTEL et al., "Virtual Reality: through the new looking glass," 2 nd Edition; McGraw-Hill, ISBN 0-07-050167-X, pp. 41-202, 1994.
		"Cyberman Technical Specification," <i>Logitech Cyberman SWIFT Supplement to Logitech Mouse Technical Reference and Programming Guide</i> , 4/5/1994.
		OUHYOUNG et al., "The Development of A Low-Cost Force Feedback Joystick and Its Use in the Virtual Reality Environment," <i>Proceedings of the Third Pacific Conference on Computer Graphics and Applications, Pacific Graphics '95</i> , Seoul, Korea, 21-24 August 1995.
		KACZMAREK et al., "Tactile Displays," <i>Virtual Environment Technologies</i> , Chap. 9, pp. 349-414.
		LAKE, "Cyberman from Logitech," at http://www.ibiblio.org/GameBytes/issue21/greviews/cyberman.html , 1994.
		"Component Maintenance Manual With Illustrated Parts List, Coaxial Control Shaker Part No. C-25502," Safe Flight Instrument Corporation, Revised 28 January 2002 (3 pages).

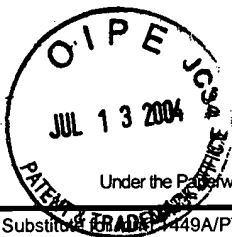
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet **3** of **3**

Complete if Known

Application Number	10/657,079
Filing Date	September 9, 2003
First Named Inventor	David Alexander
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OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS

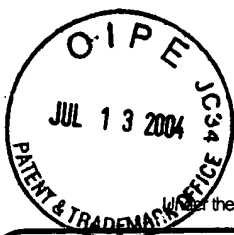
Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
		"Technical Manual Overhaul Instructions With Parts Breakdown, Coaxial Control Shaker Part No. C-25502," Safe Flight Instrument Corporation, Revised 15 July 1980 (23 pages).
		SCANNELL, "Taking a Joystick Ride," <i>Computer Currents</i> , Boston Edition, Vol. 9, No. 11, November 1994
		YAMAKITA et al., "Tele-Virtual Reality of Dynamic Mechanical Model," <i>Proceedings of the 1992 IEEE/RSJ International Conference on Intelligent Robots and Systems</i> , Raleigh, NC, July 7-10, 1992
		NOLL, "Man-Machine Tactile," <i>SID Journal</i> , July/August 1972 Issue.
		ROSENBERG, "Virtual Fixtures: Perceptual Overlays Enhance Operator Performance In Telepresence Tasks," <i>Ph.D. Dissertation</i> , Stanford University, June 1994.

Examiner Signature		Date Considered	
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(2 of 2)

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number	10/657,079		
		Filing Date	September 9, 2003		
		First Named Inventor	David Alexander		
		Art Unit	3739		
		Examiner Name	Unassigned		
Sheet	1	of	12	Attorney Docket Number	IMMR023/03US

U.S. PATENT DOCUMENTS					
Exam iner Initial s*	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM- DD-YYYY
		Number	Kind Code ² (if known)		
		6,223,100		Green	04-2001
		5,995,738		DiGioia, III et al.	11-30-1999
		5,967,790		Strover et al.	10-19-1999
		5,956,040		Asano et al.	09-21-1999
		5,951,301		Yunker	09-14-1999
		5,947,743		Hasson	09-07-1999
		5,945,056		Day et al.	08-31-1999
		5,941,710		Lampotang et al.	08-24-1999
		5,909,380		Dubois et al.	06-01-1999
		5,891,131		Rajan et al.	04-06-1999
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		5,882,207		Lampotang et al.	03-16-1999
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		5,828,197		Martin et al.	10-27-1998
		5,825,941		Linford et al.	10-20-1998
		5,825,308		Rosenberg	10-20-1998
		5,821,920		Rosenberg et al.	10-13-1998
		5,807,115		Hu	09-15-1998
		5,805,140		Rosenberg et al.	09-08-1998
		5,800,179		Bailey	09-01-1998
		5,800,178		Gillio	09-01-1998
		5,800,177		Gillio	09-01-1998
		5,791,908		Gillio	08-11-1998
		5,785,630		Bobick, et al.	07/28/1998
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		5,768,134		Swaelens et al.	06-16-1998
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		5,724,264		Rosenberg et al.	03-03-1998
		5,722,836		Yunker	03-03-1998

Examiner Signature	Date Considered
-----------------------	--------------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.

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		First Named Inventor	David Alexander
		Art Unit	3739
		Examiner Name	Unassigned
Sheet 2 of 12	Attorney Docket Number	IMMR023/03US	

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY
		Number	Kind Code ² (if known)		
		5,721,566		Rosenberg et al.	02-24-1998
		5,704,791		Gillio	01-06-1998
		5,701,140		Rosenberg et al.	11-23-1997
		5,691,898		Rosenberg et al.	11-25-1997
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		5,609,485		Bergman et al.	03-11-1997
		5,593,306		Kohnke	01-14-1997
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		5,451,924		Massimino et al.	09-19-1995
		5,438,529		Rosenberg et al.	08-01-1995
		5,414,337		Schuler	05-09-1995
		5,403,191		Tuason	04-04-1995
		5,391,081		Lampotang et al.	02-21-1995
		5,389,865		Jacobus et al.	02-14-1995
		5,385,474		Brindle	01-31-1995
		5,377,116		Wayne et al.	12-27-1994
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		5,354,202		Moncrief et al.	10-11-1994
		5,343,871		Bittman et al.	09-06-1994

Examiner Signature	Date Considered
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		Filing Date	September 9, 2003
		First Named Inventor	David Alexander
		Art Unit	3739
		Examiner Name	Unassigned
		Attorney Docket Number	IMMR023/03US
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U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY
		Number	Kind Code ² (if known)		
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		5,334,027		Wherlock	08/02/1994
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		Des. 233,238		Reid et al.	10-15-1974

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		Office ¹	Number ²	Kind Code ³ (if known)		
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OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Exam iner Initial s*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ⁶
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Substitute for form 1449A/PTO		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number	10/657,079
		Filing Date	September 9, 2003
		First Named Inventor	David Alexander
		Art Unit	3739
		Examiner Name	Unassigned
		Attorney Docket Number	IMMR023/03US
Sheet	11	of	12

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS		
	Rabinowitz et al., "Multidimensional tactile displays: Identification of vibratory intensity, frequency, and contractor area," <i>Journal of The Acoustical Society of America</i> , Vol. 82, No. 4, October 1987	
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	Russo, "Controlling Dissipative Magnetic Particle Brakes in Force Reflective Devices," DSC-Vol. 42, <i>Advances in Robotics</i> , pp. 63-70, ASME 1992	
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	SHAHIDI et al., <i>Clinical Applications of Three Dimensional Rendering of Medical Data Sets</i> , Proceedings of IEEE, Vol. 86, No. 3, March 1998, pp. 555-568	
	Shimoga, "Finger Force and Touch Feedback Issues in Dexterous Telemanipulation," <i>Proceedings of Fourth Annual Conference on Intelligent Robotic Systems for Space Exploration</i> , Rensselaer Polytechnic Institute, Sep. 30- Oct. 1, 1992	
	SMITH, <i>Scanning the Technology</i> , Proceeding of IEEE, Vol. 86, No. 3, March 1998, pp. 474-478	
	Snow et al., "Model-X Force-Reflecting-Hand-Controller," NT Control No. NPO-17851; JPL Case No. 7348, pp. 1-4 with 45 pages of attachments, 06/15/1989	
	SOFERMAN et al., <i>Advanced Graphics Behind Medical Virtual Reality: Evolution of Algorithms, Hardware, and Software Interfaces</i> , Proceedings of IEEE, Vol. 86, No. 3, March 1998, pp. 531-554	

Examiner Signature		Date Considered	
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Sheet 12 of 12	Attorney Docket Number	IMMR023/03US	

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS		
	Stanley et al., "Computer Simulation of Interacting Dynamic Mechanical Systems Using Distributed Memory Parallel Processors," DSC-Vol. 42, <i>Advances in Robotics</i> , pp. 55-61, ASME 1992	
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	Terry et al., "Tactile Feedback In A Computer Mouse," <i>Proceedings of Fourteenth Annual Northeast Bioengineering Conference, University of New Hampshire</i> , March 10-11, 1988	
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